

Pranav Minasandra, Ph.D.

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Interests Novel and generally applicable theories of behaviour in animals; methods to explore behavioural dynamics. I am particularly interested in the dynamics of behaviour at the intersection of multiple timescales, and the *behavioural algorithms* used by animals to express individual, collective, and social behaviour.

Experience

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| [Postdoc] Max Planck Institute of Animal Behaviour, Konstanz, Germany IMPRS-QBEE Postdoc Awardee. | 2024 - now |
| [Ph.D.] Max Planck Institute of Animal Behaviour, Konstanz, Germany <i>Magna cum laude</i> Thesis: “ <i>Exploring sequences of behaviour across scales and species.</i> ” Also affiliated to: International Max Planck Research School of Quantitative Behaviour, Ecology, and Evolution; and the University of Konstanz. | 2020 - 2024 |
| [M.Sc.] Indian Institute of Science (IISc), Bengaluru, India Master of Science in Biology. Research at the Centre for Ecological Sciences, IISc. | 2019 - 2020 |
| [B.Sc. (Research)] Indian Institute of Science (IISc), Bengaluru, India Major in Biology. Research at the Centre for Ecological Sciences, IISc. | 2015 - 2019 |

Publications **Peer-reviewed publications**

1. Gall, G. E., Demartsev, V., **Minasandra, P.**, Baldoni, C., Cain, K. E. & Quinn, J. S. Examining Combinatoriality within the Pukeko Vocal Repertoire. *Animal Behaviour*. 123431. ISSN: 0003-3472. doi:[10.1016/j.anbehav.2025.123431](https://doi.org/10.1016/j.anbehav.2025.123431) (2026).
2. **Minasandra, P.**, Grout, E. M., Brock, K., Crofoot, M. C., Demartsev, V., Gersick, A. S., Hirsch, B. T., Holekamp, K. E., Johnson-Ulrich, L., Nayak, A., *et al.* Behavioral sequences across multiple animal species in the wild share common structural features. *PNAS* **122**. e2503962122. doi:[10.1073/pnas.2503962122](https://doi.org/10.1073/pnas.2503962122) (2025). [[Press coverage](#)].
3. DeNicola, V., Mezzini, S., Bursac, P., **Minasandra, P.** & Cagnacci, F. Effects of vasectomy on breeding-related movement and activity in free-ranging white-tailed deer. *Movement Ecology*. doi:[10.1186/s40462-025-00554-5](https://doi.org/10.1186/s40462-025-00554-5) (2025).
4. Grout, E. M., Ortega, J., **Minasandra, P.**, Quin, M. J., Crofoot, M. C., Strandburg-Peshkin, A. & Hirsch, B. T. Whole Group Tracking Reveals That Relatedness Drives Consistent Subgrouping Patterns in White-Nosed Coatis. *Animal Behaviour* **216**. 175–193. ISSN: 0003-3472. doi:[10.1016/j.anbehav.2024.08.010](https://doi.org/10.1016/j.anbehav.2024.08.010) (2024).
5. **Minasandra, P.**, Jensen, F. H., Gersick, A. S., Holekamp, K. E., Strauss, E. D. & Strandburg-Peshkin, A. Accelerometer-based predictions of behaviour elucidate factors affecting the daily activity patterns of spotted hyenas. *Royal Society Open Science* **10**. 230750. doi:[10.1098/rsos.230750](https://doi.org/10.1098/rsos.230750) (2023).

6. Kunjar, S., Strandburg-Peshkin, A., Giese, H., **Minasandra, P.**, Sarkar, S., Jolly, M. K. & Gradwohl, N. Link updating strategies influence consensus decisions as a function of the direction of communication. *Royal Society Open Science* **10**. 230215. doi:[10.1098/rsos.230215](https://doi.org/10.1098/rsos.230215).
7. **Minasandra, P.** & Isvaran, K. Truncated power-law distribution of group sizes in antelope. *Behaviour* **157**. 541–558. doi:[10.1163/1568539X-bja10012](https://doi.org/10.1163/1568539X-bja10012) (2020).

Pre-prints and work in-prep

8. **Minasandra, P.** Anticipating others' future behaviours alters collective movement and enhances survival. *bioRxiv* **122**. 2025–08. doi:[10.1101/2025.08.14.670290](https://doi.org/10.1101/2025.08.14.670290) (2025). [pre-print].
9. **Minasandra, P.**, Planas-Sitjà, I., Roche, D. & Sridhar, V. H. TracktorLive: a real-time multi-object tracking and response delivery package. [Software available on [GitHub](#)].
10. **Minasandra, P.**, Demartsev, V., Johnson-Ulrich, L., Manser, M. & Strandburg-Peshkin, A. Spatiotemporal interplay of vigilance, movement, and collective behaviour in groups of meerkats. [Ch. 3 of Dissertation, available [online](#)].
11. Grout, E. M., Hass, C. C., **Minasandra, P.**, Thomas, M., Ashbury, A. M., Ortega, J., Crofoot, M. C., Hirsch, B. T. & Strandburg-Peshkin, A. The vocal repertoire of white-nosed coatis: structural features, temporal dynamics, and social variations.

Awards and fellowships

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| Best Paper Award—University of Konstanz Chosen from among several nominations. [200 €] | 2025 |
| Nominated: Schmidt Science Fellows One of ten doctoral graduates nominated by the Germany-wide Max Planck Society. | 2024 |
| IMPRS Postdoctoral Award 6 months of pay at the scale of a postdoctoral researcher. [32,350 €] | 2024-2025 |
| ISBE Travel Award 2500 AUD [≈1,500 €]. | 2024 |
| DAAD - Graduate Student Scholarship Programme Nominated after evaluation of my proposal. [≈60,000€] | 2020 - 2024 |
| Kishore Vaigyanik Protsahan Yojana Govt. of India scholarship for exceptional undergraduates in science. <i>All India Rank : 135</i> Included stipend and contingency | 2015 - 2020 |

Mentorship

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| Juee Dhar Role: Mentor and Thesis Advisory Committee member. <i>Doctoral thesis</i> : Sleep social dynamics in baboon groups. | |
| Amlan Nayak Role: Mentor and primary co-advisor. <i>Master's thesis</i> : Spatial variation of vigilance in meerkats. | |
| Ananya Passi Role: Co-advisor <i>Summer research</i> : Mathematical modelling of habitat use and population dynamics. | |

Talks and posters

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| [Invited] Talk at Laboratory for the Conservation of Endangered Species <i>Centre for Cellular and Molecular Biology, Hyderabad</i> “Three short stories in animal behaviour” | 2025 |
| [Invited] CES Seminar Series <i>Indian Institute of Science, Bangalore</i> “Exploring sequences of behaviour in the wild across scales and species” | 2024 |

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| | International Society of Behavioural Ecology Meeting <i>Melbourne, Australia</i> “Sequences of behaviour show a common statistical structure across species” | 2024 |
| | Gessellschaft für Primatologie Annual Conference <i>Konstanz, Germany</i> “How animals behave: Sequences of behavior show a common statistical structure across species” | 2024 |
| | Descriptive & Normative Models of Collective Behaviour <i>School of Mathematics, University of Leeds</i> “Looking into hyena daily activity patterns using accelerometers” | 2022 |
| | Animal Behaviour Society - Virtual Seminar 2021 “Behavioural classifier provides insights into spotted hyena behaviour” | 2021 |
| Teaching | Introduction to Git <i>Instructor and organiser:</i> Biannual workshop offered at the MPI of Animal Behavior. | |
| | Introduction to remote code servers like GitHub <i>Instructor and organiser:</i> Biannual workshop offered at the MPI of Animal Behavior. | |
| | L^AT_EX for academic documents <i>Instructor and organiser:</i> Annual workshop offered at the MPI of Animal Behavior. | |
| | Quantitative Ecology: Research Design and Inference <i>Teaching assistant:</i> Taught coding in R, conducted several classes, graded assignments, managed course website. | 2019 |
| Technical skills | <i>Programming languages and related</i> Python, Julia, R, Bash, L ^A T _E X, and C. HTML, CSS, and git. <i>Specialised computational skills</i> Machine learning; Parallel processing and Inter-Process Communication; Agent-based models; Analysis of complex multivariate time-series data. <i>Mathematical modelling</i> Dynamical (PDE) models incorporating spatial and stochastic variables; Probability models; Numerical simulations of all the above. | |
| Other academic services | Reviewing Methods in Ecology and Evolution; PLOS One; Integrative and Comparative Biology; Animal Behaviour. Representation Postdoc representative at the Max Planck Institute of Animal Behaviour. | 2024 - 2025 |
| References | Dr Ariana Strandburg-Peshkin, Max Planck Institute of Animal Behavior astrandburg@ab.mpg.de Dr Andrew Berdahl, University of Washington berdahl@uw.edu | Dr Kavita Isvaran, Indian Institute of Science kavita@iisc.ac.in Prof Meg Crofoot, Max Planck Institute of Animal Behavior mcrofoot@ab.mpg.de |